

We claim:

1. A composition for accelerating *in vivo* oxidation of ethanol, the composition comprising a species selected from a group including a multivalent transition metal ion, a complex thereof, and  $\text{NAD}^+$ .

2. The composition of Claim 1, the transition metal being selected from a group including the elements of Groups IVa through VIII of the Periodic Table.

3. The composition of Claim 1, the species comprising one of a group selected from: vanadyl sulfate; potassium ferricyanide; ammonium iron(III) citrate; ammonium molybdate; ammonium phospho molybdate; sodium tungstate; sodium phospho tungstate; ammonium manganese(III) sulfate; zirconium(IV) EDTA; niobium(IV) EDTA; tetrakis(tropolinato) niobium(V) chloride; tetrakis(tropolinato) tantalum(V) chloride; cobalt(III) hexamine chloride; and chromium(III) picolinate.

4. The composition of Claim 1 having a sufficient quantity of the transition metal ion to provide an *in vivo* concentration of the ion in the range 0.05% to 2% of a maximum *in vivo* molar concentration of ethanol.

5. The composition of Claim 1 having a quantity of  $\text{NAD}^+$  sufficient to provide an *in vivo* concentration of  $\text{NAD}^+$  in the range 0.05% to 5% of a maximum *in vivo* molar concentration of ethanol.

6. The composition of Claim 1 comprising also a base.

7. The composition of Claim 6, having a quantity of the base sufficient to provide an *in vivo* concentration of the base at least chemically equivalent to acid resulting from the oxidation of the ethanol.

8. The composition of Claim 6 wherein the base includes one of sodium carbonate, sodium bicarbonate, trisodium phosphate, disodium hydrogen phosphate and tris(hydroxymethyl)-aminomethane.

9. The composition of Claim 1, comprising an agent reactive with acetaldehyde.

10. The composition of Claim 9, the reactive agent being selected from a group including lysine, arginine, thiamine, and pyridoxamine.

11. The composition of Claim 9 having a quantity of the reactive agent sufficient to provide an *in vivo* concentration of the reactive agent at least chemically equivalent to an amount of acetaldehyde resulting from the oxidation.

12. The composition of Claim 9, the reactive agent being a dehydrogenase.

13. The composition of Claim 12, the dehydrogenase comprising one of alcohol dehydrogenase and acetaldehyde dehydrogenase.

14. The composition of Claim 9 wherein the dehydrogenase has a concentration in the range 0.1 and 10 I. U./L.

15. The composition of Claim 1 including an accelerant.

16. The composition of Claim 15, the accelerant being selected from a group including adenosine 5'-triphosphate, adenine-9-β-D-arabinofuranside 5'-triphosphate, 2'-deoxyadenosine 5'-triphosphate, and 2',3'-dideoxyadenosine 5'-triphosphate.

17. The composition of Claim 15, the accelerant being selected from a group including fructose, arabinose, ribose, deoxyribose, and their phosphorylated derivatives.

18. The composition of Claim 15, having a quantity of the accelerant sufficient to provide an *in vivo* concentration in the range from 1% to 100% of a maximum *in vivo* molar concentration of ethanol.

19. The composition of Claim 1, including a charge-transfer agent.

20. The composition of Claim 19, the charge-transfer agent being selected from a group including an isoflavanone and a pyranoside thereof.

21. The composition of Claim 20, wherein the isoflavanoid is daidezin and its pyranoside is aloin.

22. The composition of Claim 19, the charge-transfer agent being selected from a group including methoxatin, pyridoxine, pyridoxamine, pyridoxamine phosphate and thiamine.

23. The composition of Claim 19 having a quantity of the charge-transfer agent sufficient to provide an *in vivo* concentration of the charge-transfer agent in the range from 0.1% and 2% of a maximum *in vivo* molar concentration of ethanol.

24. The composition of Claim 1, comprising a surfactant.
25. The composition of Claim 24, the surfactant being selected from a group including saponin, taurine, oleic acid and lecithin.
26. The composition of Claim 24, the concentration of the surfactant being in the range 0.02% and 0.2% by volume.
27. The composition of Claim 24, wherein the surfactant is also a charge-transfer agent.
28. The composition of Claim 27, wherein the surfactant and charge-transfer agent is selected from a group including lipoic acid, retinoic acid, retinal, retinol, and derivatives and analogs thereof.
29. The composition of Claim 27, having a quantity of the surfactant and charge-transfer agent sufficient to provide an *in vivo* concentration of the surfactant and charge-transfer agent between 0.1% and 2% of a maximum molar concentration of ethanol.
30. The composition of Claim 12, including a stabilizing ion.
31. The composition of Claim 30, the stabilizing ion being zinc.
32. The composition of Claim 31, the concentration of zinc ions being 1% the molar concentration of the dehydrogenase.
33. The composition of Claim 1, having also a dietary composition selected from a group including garlic oil, onion oil and dietary fiber.
34. The composition of Claim 1, having also a medication.
35. The composition of Claim 34, the medication being a pain-relief agent selected from a group including aspirin, ibuprofen and acetaminophen.
36. The composition of Claim 1, being configured in a form selected from a group including a solution, suspension, capsule, gel caplet, transdermal patch, and nasal spray.
37. A composition for accelerating *in vivo* oxidation of methanol, the composition comprising a species selected from a group including a multivalent transition metal ion, a complex thereof, and NAD<sup>+</sup>.
38. The composition of Claim 37, the transition metal being selected from a group including the elements of Groups IVa through VIII of the Periodic Table.

39. The composition of Claim 37, the species comprising one of a group selected from: vanadyl sulfate; potassium ferricyanide; ammonium iron(III) citrate; ammonium molybdate; ammonium phospho molybdate; sodium tungstate; sodium phospho tungstate; ammonium manganese(III) sulfate; zirconium(IV EDTA; niobium(IV) EDTA; tetrakis(tropolinato) niobium(V) chloride; tetrakis(tropolinato) tantalum(V) chloride; cobalt(III) hexamine chloride; and chromium(III) picolinate.

40. A process for accelerating *in vivo* oxidation of ethanol, comprising the steps of:

(a) preparing a composition comprising a species selected from a group including a multivalent transition metal ion, a complex thereof, and  $\text{NAD}^+$ ; and

(b) administering the composition *in vivo* by a route selected from a group including an oral route, a nasal route, a rectal route, a transdermal route, an intravenous route, an intraperitoneal route and a stomach lavage route.

41. A process for accelerating *in vivo* oxidation of ethanol, comprising the steps of:

(a) preparing a composition comprising a species selected from a group including a multivalent transition metal ion, a complex thereof, and  $\text{NAD}^+$ ;

(b) forming the composition into a configuration selected from a group including a solution, a suspension, a gel, a capsule, a tablet, a caplet, a transdermal patch and a nasal spray; and

(c) administering the composition *in vivo* by a route corresponding to the selected configuration.